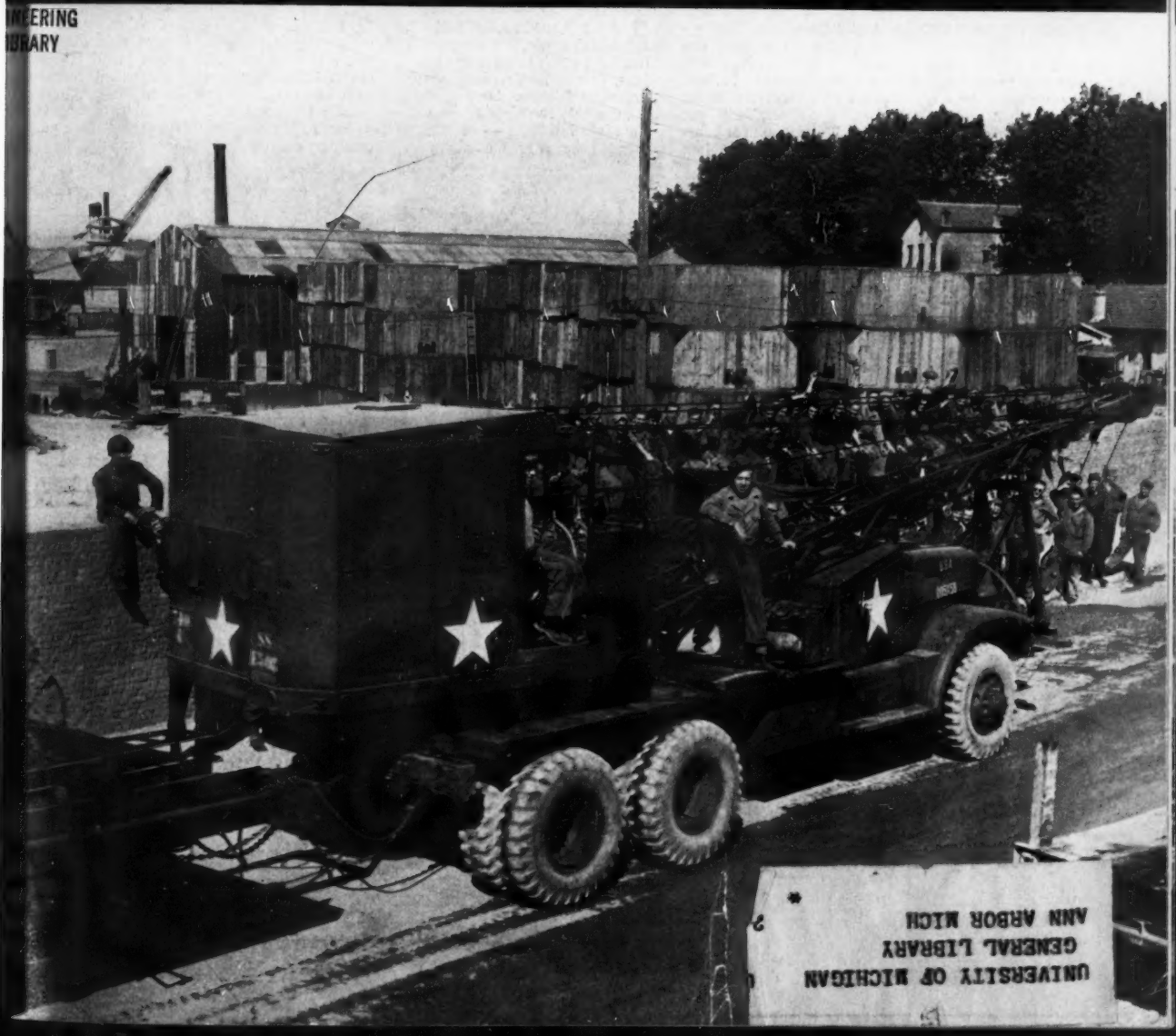
# ENGINEERING NEWS-RECORD

Engineer troops wave goodbye to a truck-crane as it leaves France for the Pacific war front.



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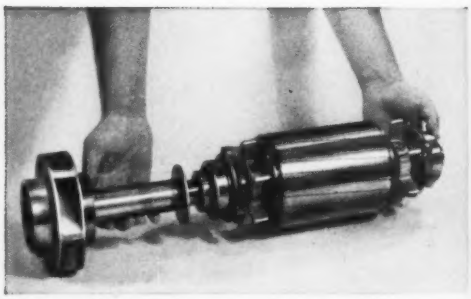
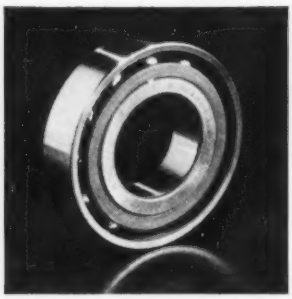
[ PUMP TIPS FROM ALLIS-CHALMERS — ONE IN A SERIES ]

# *How to make* CENTRIFUGAL PUMPS *Last Longer...*

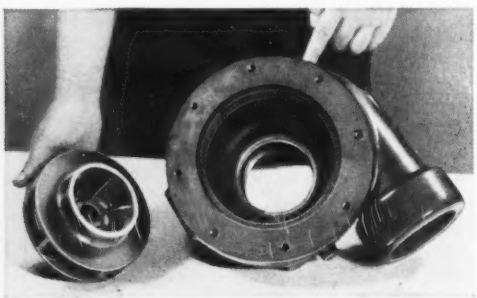




**1 WHEN YOU HAVE** an A-C "Electrifugal" pump you don't have alignment problems, for *both* impeller and rotor are mounted on *one* shaft. However, most pumps are coupled to separate motors . . . and how well the two are kept in alignment has a lot to do with how long they last. For timely help, get your *free* copy of Allis-Chalmers' "Handbook for Wartime Care of Centrifugal Pumps".

**2 ALL BEARINGS AREN'T ALIKE.** For example, while too much lubricant won't harm sleeve bearings, in anti-friction bearings it *promotes* friction. So play safe . use only the *right* amount of the *right* lubricant — as recommended by your manufacturer.

**3 SLEEVES WEAR UNDULY** when water sea piping is plugged, lantern ring displaced water is dirty or stuffing box gland is draw too tightly. By keeping a constant check o such sources of wear, sleeve life can be ma terially lengthened. For valuable tips on how to locate, how to remedy these and other pump troubles, consult the "Handbook".



**4 THE KIND OF PACKING,** and *how* you use it have a lot to do with how long your pumps last. Commonest cause of trouble traces back to lack of "know-how" in caring for stuffing boxes. A quick picture of the *how* and *why* of efficient packing can be found in the "Handbook".

**5 AN OFTEN OVERLOOKED CAUSE** of impeller and casing wear is cavitation. For if a pump's capacity, head and particularly, suction lift aren't figured properly, this enemy can eat vital parts away fast. Allis-Chalmers' "Handbook for Wartime Care of Centrifugal Pumps" contains a step-by-step method for figuring head, plus tables of losses to help you apply your pumps correctly.

TODAY, with pumps working harder than ever and replacements difficult to obtain, you can't afford to take chances on maintenance. That's why Allis-Chalmers has published its "Handbook for Wartime Care of Centrifugal Pumps".

Write for your *free* copy of this valuable book today! It applies to *all* makes of pumps; contains *no* advertising.

And when you *do* need new pumps, look into the extra efficiency of A-C centrifugal pumps ... the "Electrifugal", and all types for every purpose. ALLIS-CHALMERS, MILWAUKEE.

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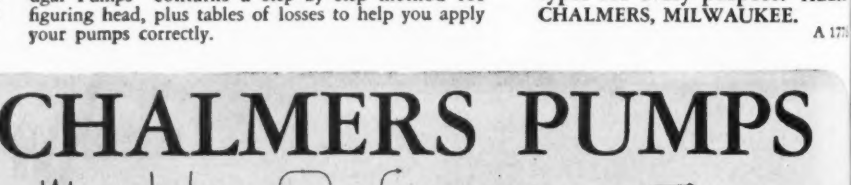
## ALLIS-CHALMERS PUMPS

**Allis-Chalmers builds all types and variations of pumps shown at right. Capacities from 10 to 150,000 gpm—heads to 2500 lbs.**



The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • JULY 5, 1945 • VOLUME 135 • NUMBER 1

# Vinson sees need for higher construction volume

## Director of War Mobilization and Reconversion sets postwar volume of new construction at $15 billion if a stable postwar economy is attained

If a stable postwar economy is to be obtained in the United States after the war, the construction industry must be prepared to carry out a greater yearly volume of work than ever before, Fred M. Vinson, Director of War Mobilization and Reconversion, declared in his report for the second quarter of 1945, which was released July 1. However, this volume cannot be attained without early solution to major problems.

### Much construction ahead

In outlining the expected postwar future of the industry, Director Vinson stated: "We have a tremendous building job ahead of us. After a decade of depression and five years of war there is a great accumulated demand for houses, streets and roads, community facilities and, in many industries, new productive capacity. The prospect of achieving a high, stable level of total output depends in large part upon the timing and volume of construction activity. In the late Twenties, construction employed over 2 million men per year on site and about an equal number in supporting industries. By 1933 this employment had fallen 60 percent. During the war, construction rose to an all-time high rate of $13 billion a year, but it has now dropped to about $4 billion. Postwar it should rise to an annual level of at least $15 billion, if we are to fulfill our needs."

### Advance planning needed

The lack of sufficient plans to permit the industry to carry out this large amount of work was stressed in the report. Director Vinson wrote: "Already, some projects are planned, financed, and ready to go. But the total volume ought to be far larger, to permit a strategic selection of projects to fit into post-V-J-Day conditions. Only if we have a large shelf of public works in the blueprint stage will we be able to quickly get a building program under way. Under such conditions speed would be of utmost importance to quickly provide interim employment to get our economy on the upgrade again, in the event that mass unemployment develops before business has had time to reconvert. In this connection, private business should advance its plans to the blueprint stage now."

### Timing held important

The federal government's proper role in the preparation of plans was described as follows: "We need foresighted plans for construction—plans by private business, by local, state, and federal governments. These plans should include a program of useful federal projects. They should include low-cost housing in areas that the private construction industry cannot be expected to provide. The timing and aggregate volume of public projects should be integrated with a fiscal policy whose object is to stabilize our economy at high levels of production and employment.

"Cooperation is needed with state and local authorities, providing them with information and helping them to time and adapt their programs to the total economic picture. Facts on population growth and movements, vacancies, costs, prices and other factors influencing the construction market should be made available by the government to the construction industry and the public generally. The government can make a great contribution in promoting the science of city planning, efficient construction methods, and the application of modern architecture to the home."

### Competition to be avoided

Another major problem of the industry, in addition to the need to accelerate planning, is that of reconversion of the construction industry itself. On this, Director Vinson said: "The construction industry cannot jump into the breach right away. It has a reconversion job. Hardware, plumbing, and other equipment must be manufactured. Stocks of building supply dealers all over the country must be replenished, and contractors must rebuild their organizations. During this period of reconversion in the construction industry, the government must be particularly careful not to compete with private construction. Public projects should be timed to fill in the lulls when private

(*Continued on next page*)

# Planning funds advanced by FWA

First federal advances to states and their political subdivisions for the blueprinting of local postwar public works were approved June 25 by the Federal Works Agency. This first group of advances totals $1,004,443, and is to finance wholly or in part the plan preparation of 36 projects with an estimated total cost of $51,126,239.

The number of applications received to date is 162 for a total of $4,281,425. This number includes the 36 already approved, the latter representing communities in Arkansas, Florida, Georgia, Iowa, Louisiana, Missouri, New York, Oklahoma, Pennsylvania, South Dakota, Texas, Virginia and West Virginia.

The projects include hospital, school, recreation, water, drainage, sewage disposal and miscellaneous public facilities; street improvements, a municipal wholesale produce market, a city hall a municipal garage, and other similar projects.

The advances were made from the $17,500,000 fund appropriated by Congress under authority of Title V of the War Mobilization and Reconversion Act of 1944, to aid states and local governments in the planning of postwar public works (*ENR* May 10, vol. p. 675).

construction falls off, when the industry is not operating at capacity, and when public construction will be most effective in cushioning a decline in employment."

#### Handicaps to progress

The need for the industry to rid itself of certain restrictive practices was also stressed by Director Vinson. Regarding this point he wrote: "The construction industry appears to have lagged behind American business as a whole in technological advances and in progressively reducing the cost of its product to the public, thus increasing markets. There is a great need for a thorough examination of this important area in our economy, especially with relation to restrictive practices, whether they apply to materials, labor, or financing. If ways can be found to free this great industry the resulting benefits to the housing standards of the individual and to the stability of our whole economy would be incalculable."

Director Vinson expressed the view that by the first of next year the controlled materials plan can be eliminated and that restrictions on construction can be drastically reduced by that time. He considers the rate at which construction activity can be accelerated will depend on the availability of lumber, but feels that the expected decline in military requirements and increased manpower for production will permit a major relaxation in lumber controls late this year.

• • •

## Completed Madera Canal to irrigate 140,000 acres

Completion of Madera Canal, unit of California's Central Valley Project which carries water from Friant Dam 37 miles to the Chowchilla River, was announced early in June as the structure was ready to deliver additional irrigation water to 140,000 acres of farm lands in Madera County.

The first section of the canal, between the storage dam and Fresno River, was opened for operation a year ago. The canal now passes under Fresno River and continues to Madera Reservoir, where water from the canal is spread out to sink into gravel strata and replenish the underground supply. Capacity of the canal is 1,000 cu. ft. per sec.

# Federal aid for local public works not needed, says report to Congress

### Colmer Committee wants reserve shelf of projects but also sees initial construction demands exceeding industry capacity

Setting forth three principles as a "foundation on which to erect a healthy national construction program," the House Special Committee on Postwar Economic Policy and Planning, in a report to Congress on July 1, cited as the first principle the need for a declaration by the federal government that no aid would be made available for financing state or local public works.

The committee, of which William M. Colmer is chairman, urged as the second principle that the federal government assume leadership in building up a reserve shelf of engineering plans to provide a cushion against future decline in the construction industry.

The third principle calls for the establishment of a construction policy board in the executive office of the President to guide public works programs, and to serve the construction industry in its efforts to maintain a healthy, stable growth in relation to national income.

The committee reported that the financial condition of many state and municipal governments is stronger now than before the war and no promise of federal aid for construction should be made for the first years of peace.

In urging that state and local governments "blueprint" a $5 billion program of projects as an aid in postwar stabilization of the construction industry, the committee also pointed out that during the transition period public works should not be pitted against private building and thus cause a sharp rise in prices. Sudden resumption of both private and public construction, the committee stated, might "speed the construction industry on a cycle of inflation and depression."

Construction demands following victory over Japan will exceed available supplies of material and completed plans, said the report. Eventually, "a plateau of activity" should be reached totaling a $21 billion output annually, a figure based on an anticipated national income of $140 billion.

## Congress votes money for war construction

In the rush of completing the 1945 fiscal year Congress late last week approved a 21.5 billion dollar appropriation bill (H.R. 3550) for the military and departmental activities for the War Department for the fiscal year 1946. As finally approved the measure includes $176,000,000 for construction work at military posts by the U. S. Army engineers. An appropriation of $540,000,000 for maintenance, repair and operation of army barracks, quarters, airfields and other military facilities is also included. In addition, Congress provided nearly 2.6 billion dollars for the purchase of equipment, including a large amount of construction machinery, to be shipped overseas.

Because the fiscal year 1946 has already begun, President Truman is expected at an early date to add his signature to make the bill law.

## Bond issue is voted for San Diego water system

Overwhelming approval of a $6,000,000 bond issue for financing new pipelines, a regulating reservoir and filter plant for the city's water system was given by San Diego, Calif., voters recently by a twelve to one majority.

Five new pipelines will augment existing facilities into San Diego from San Vicente reservoir 18 miles away, to which 50,000,000 gpd. of Colorado River water are scheduled to be delivered upon completion of the government's $17,500,000 San Diego Aqueduct emergency project.

The regulating storage reservoir and filter plant for chlorination also are necessary for most advantageous use of the water which will be diverted from Metropolitan Water District lines at San Jacinto tunnel to the San Vicente reservoir, according to proponents of the bond issue.

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## Much dam construction planned for Texas

The completion of studies and surveys preparatory to letting a contract for making detailed plans and specifications for the $30,000,000 Whitney Dam on the Brazos River near Waco, Tex., was announced by Maj. H. R. Norman, engineering section chief of the U. S. District Engineers Office at Galveston, on June 9. This contract will be let soon and completion of the detailed plans and specifications is expected within a year.

The location of the dam, its spillway and power production facilities has been decided upon, according to Maj. Norman. The reservoir formed by the dam will be the largest in Texas—about 50 miles in length and over 4½ miles wide at some points. The dam itself will be about 190 ft. high. Its main part will be about 7,500 ft. long and additional earth sections will be 4,500 ft. long.

### Trinity River control planned

A subsidiary U. S. Engineers office will be established at Fort Worth to carry on advanced planning on the $17,000,000 Trinity River flood control program authorized on March 2, according to Col. Howard M. Yost of the U. S. District Engineers at Galveston. James A. Cotton will be chief of the office.

The program includes the construction of a dam at Benbrook on the Trinity River which will create a reservoir to give Fort Worth flood protection; the creation of reservoirs at Little Elm, Lavon and Grapevine and the modification of the Garza Dam. Altogether, these reservoirs and dams will furnish a flood control storage of 770,000 ac.ft. for the upper basin of the Trinity River.

. . .

## High school boys help save Virginia roads

High school students helped save Virginia's highways when loss of manpower due to the war threatened to halt operations, R. P. Ellison of the Virginia Highway Department told a technical committee of the American Road Builders' Association recently. Since 1942, an average of 110 boys and girls between 15 and 18 years of age have been employed each summer in surveying parties, road design, bridge design, planning survey division, landscape division, equipment division and laboratories, he said. Many of these youngsters are entering their fourth year of service with the department and have become quite efficient technicians and draftsmen.

"With the loss of our experienced staff to the armed services, we were faced with the problem of maintaining 47,000 miles of highways, planning and construction of necessary access roads and preparing for the postwar period," said Mr. Ellison. "Denied trained and experienced personnel, we appealed to the high schools. Classes in draftsmanship under engineers were established, and students taking the courses were promised employment in the state department. In addition to these office duties and surveying parties, an average of 320 students worked as laborers."

## Model shows how the future Toledo may look

*Illustrating a scheme for modernizing the city of Toledo, Ohio, a 61-ft. dia. model of the city (lower view) to a scale of 1 in. = 100 ft. is the central feature of a civic rehabilitation exposition, organized by the Toledo Tomorrow Committee, a representative group of the city's government, business and education officials. The model was placed on display in Toledo on July 4.*

*Typical changes planned may be observed by comparing the air view (upper picture) of the city with the corresponding area in the model.*

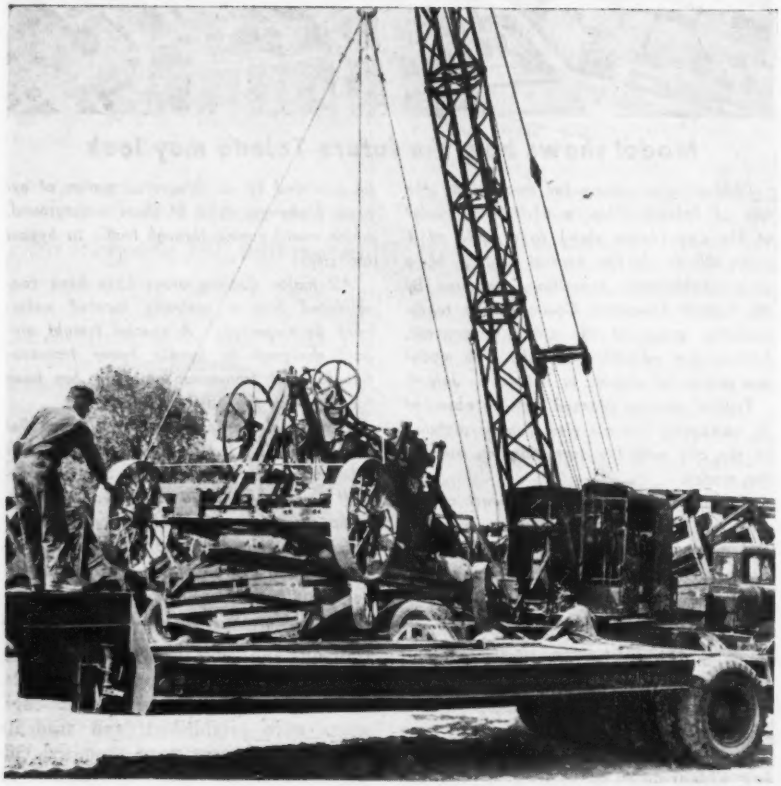
*An airport, virtually in the heart of the city, with an underground railway, bus, taxi and automobile approach leading into one single union depot is a feature of this plan. Swift access to this centralized terminus would be provided by an integrated system of express highways, some of them underground, which would enable through traffic to bypass the city.*

*All major docking areas have been consolidated into a centrally located waterfront development. A special freight airport designed to handle heavy transcontinental and transocean shipping has been located near the port facilities.*

*The model was prepared by Norman Bel Geddes & Co., industrial designers, in collaboration with Alexander D. Seversky, aircraft engineer; Earle Andrews, highway authority; and the late Col. Henry M. Waite, railroad consultant. Geoffrey Lawford, architect, was in charge of the project for Mr. Bel Geddes and his associates.*

*Engineer troops wave goodbye to a Quickway truck-crane as it leaves France to finish up the job in the Pacific.*

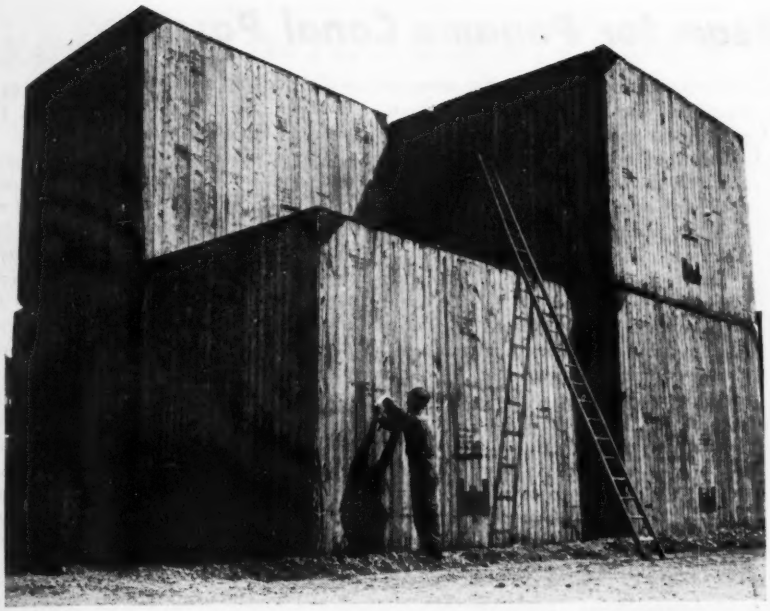
# On Their Way to New War Fronts



*No rest for this Caterpillar road grader, being loaded at a European depot for shipment to the Pacific after long and hard service in airport construction work in England and France.*

The men and machines that built the great air bases, hospitals, training camps and staging areas in England before the invasion of France, and then followed their war-time trade to the Continent, are rolling on again to new theaters and new wars. Among the early starters was a huge convoy of heavy construction equipment, road scrapers, tractors, graders, trucks and mobile maintenance machine shops of the Army Engineers which recently left a depot in the Paris area and moved into a new assembly area established under the army's redeployment system. From the assembly area, the first for engineering equipment and troops to be opened in the Communications Zone's Seine Section, they will move on to a larger staging area and then to a port of embarkation for assignment to ships.

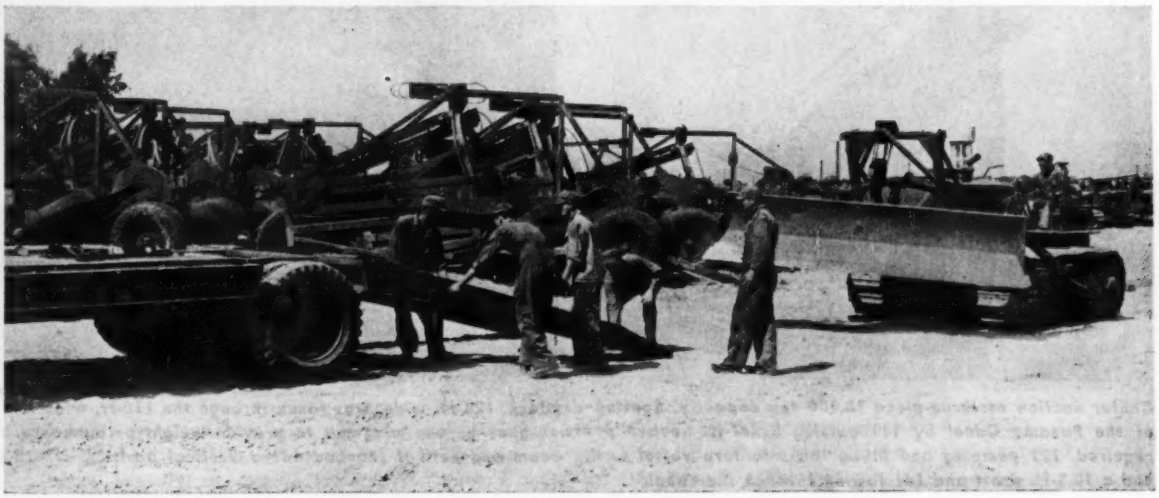
The organizations now moving into the assembly area are base depot, spare parts and shop companies whose job in the Pacific Theater will be to supply the men who will follow to build the bases, hospitals, air fields and other installations the army will need there. Already one Seine section is averaging shipments of 3,000 tons a week and will increase them to 22,000 tons a month as soon as port facilities are ready to receive them. German prisoners of war are helping to pack and load the equipment.



*Bigger than many a war-front hut are these crates, each housing a LeTourneau 8-yd. scraper, waiting at an army engineer depot in France for trans-shipment across two seas to take part in the building of airfields and construction of supply roads on the Pacific war front.*

*An Allis-Chalmers HD-7 tractor starts a heavy load of boxed engineer equipment on its way to the Jap war front.*

*A Caterpillar D-8 bulldozer rolls onto a trailer for the first leg of a long journey from France to new wars in the Pacific. In the background a group of LeTourneau scrapers await their turn.*



# Drydock on Beam for Panama Canal Passage

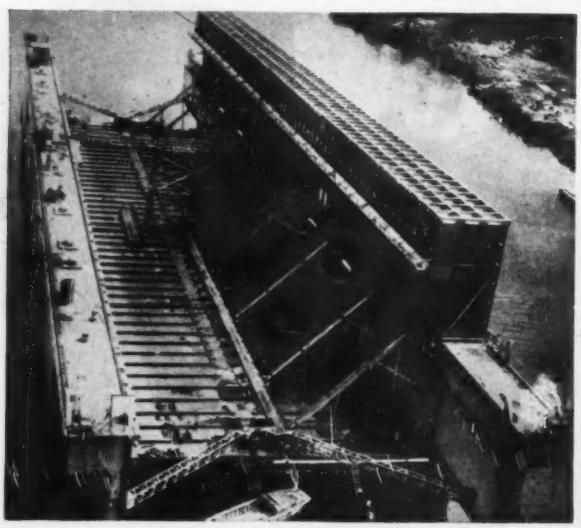
Victory in Europe and subsequent transfer of more and more fighting and cargo ships to the war with Japan has increased the demand for drydocking facilities in the Pacific and made it desirable to move westward the floating drydocks that were built on the Atlantic and Gulf coasts and not intended for passage through the Panama Canal. With the exception of a few 18,000-ton capacity, three-piece steel docks, all of the units in the three-quarter billion dollar program of floating drydocks just being completed by the Navy Bureau of Yards and Docks, including sectional ones with 100,000-ton capacity designed for battleships, can be taken through the Canal as a normal tow.

But it is the 18,000-ton units, built wider than the canal to accommodate vessels whose beam was limited only by the capacity of the canal, that now are wanted in the Pacific. These are three-piece units with a center section about 400 ft. long and two end sections, each about 90 ft. overall. This class of drydock are square ungainly vessels that it is not practical to tow around South America.

The task of getting the 124-ft. wide drydocks through the 110-ft. wide canal was assigned to the Bureau of Yards and Docks. With characteristic ingenuity they turned the vessel on its beam end thus making the width temporarily only 54 ft. The now famous 5x5x7-ft. Seabee's pontoons were stacked on the top of one wingwall to load one side using only the regularly supplied connections of the pontoon gear held by welded connections to the top of the wingwall. For safety in case of a storm with winds up to 110 mph., bracing was installed from the pontoon deck to near the top of the wingwalls.

The drydock pontoon compartments and some of the 5x5x7 ft. units were filled with water in a carefully determined amount to roll the vessel on its side. Water was pumped from the drydock's compartments to provide buoyancy under the concentrated load of what normally is the bottom of the drydock while the small pontoons were partly filled to assure continued stability against overturning during transit. Draft of the vessel, while in movement through the canal, was 10.5 ft. On arrival at the Pacific side of the canal the water was blown out of the small pontoons and admitted to the main compartment to right the vessel. Only two

(*Continued on page* 14)



*Official U.S. Navy photos*

***Center section of three-piece 18,000 ton capacity, floating drydock, 124 ft. wide, was taken through the 110-ft. wide locks of the Panama Canal by (1) putting 5x5x7-ft. Seabee pontoon gear on one wingwall to provide weight or buoyancy as required, (2) pumping and filling tanks to turn vessel on its beam end until it reached (3) a vertical position, where it had a 10.5-ft. draft and (4) towing through the canal.***

# FROM AN EDITOR'S NOTEBOOK

**A Navy rocket testing and training station now being built in the southern California desert will occupy a 1,000 sq. mi. site. As many as 8,000 workers are engaged on construction.**

*Inyokern, Calif.*—A southern California desert served General Patton well when he needed a training ground for the Army that later won victories in Africa. Now the Navy, has found good use for this same desert, and some 1,000 sq.mi. has been taken over for rocket experiments and training. The importance of this work is emphasized by the knowledge that the Navy's rocket program involves about $100,000,000 per month for ammunition alone.

### Advantages of the site

Officially known as a Naval Ordnance Test Station, the area involved is roughly 25 mi. wide by 40 mi. long and lies to the east of the aqueduct that brings Owens Valley water to Los Angeles. The administrative area is a newly built community near the small town of Inyokern, Calif., about 104 mi. by highway east of Bakersfield and 156 mi. north of Los Angeles. Three reasons cited for selecting this location are: (1) Availability of a large uninhabited area for rocket testing purposes, (2) convenient access for scientists working at the California Institute of Technology where much research on rockets and jet propulsion has been done and (3) close proximity to the huge naval ammunition depot at Hawthorne, Nev.

The administration area began to take shape in a few weeks during which barren desert was transformed into a modern construction camp and 6,000 workers were being fed in two mess halls. And it has been an exceptionally good camp despite the desert conditions or, in a way, because of them. Barracks of special design were built to withstand dust storms, weatherstrips were put on all doors and windows, and complete air conditioning was provided. At the peak of the work more than 8,000 persons had temporary quarters on the project.

### Construction handicaps

This was a difficult job to start. Remoteness was a handicap and the desert is not friendly toward strangers. In the early stages of the work, while improvements were incomplete, labor turnover was heavy after dust storms and many protective facilities had to be provided.

Some idea of the scale on which construction was begun may be had from the fact that before the roads were paved, 100 tank trucks were engaged in sprinkling. To complete the roads the asphalt hot-plant turned out capacity production of 1,000 tons per day. Concrete for structures was batched in three plants and aggregate was supplied by two rock-crushing plants with a capacity of 4,000 tons daily.

### Project considered permanent

Although construction was rushed with all the speed of a war project, unlike many others this will be a permanent installation, according to Capt. Sherman E. Burroughs, Jr., USN, commanding officer on the project. Most of the structures are being built of concrete and the project includes the homes and all the community needs of the families of men who will remain on the station.

A large permanent technical staff will be required, and Comdr. John O. Richmond, executive officer, said, "We shall need a couple of thousand more mechanical, electrical and other engineers, optical experts, men trained in electronics, sound and in other advanced sciences as well as many other types of workers."

Included in the project and now under construction or recently completed are two airports, 140 mi. of roads, laboratories, administrative buildings, schools, hospital, theater, warehouses, cold-storage buildings, central steam plants, gymnasium, swimming pool,

*Official U. S. Navy photo*

***Construction materials of all sorts are stacked in the open or in warehouses at the Inyokern Naval Ordnance Test Station in Southern California, where rocket tests will be conducted. A sawmill appears in the right foreground and in the distance above it are plants handling hot asphalt and pumice for concrete aggregate.***

water supply, sanitation, and other utilities. Special facilities include automatic temperature and humidity controls to stabilize indoor conditions in an atmosphere where relative humidity is often below 10 percent.

**Contract arrangements**

The contract system which prevails on the project began with a relatively small contract held by the Macco Construction Co. for the smaller of the two airports. Soon thereafter, when plans began to pyramid, the Macco organization entered into a "joint venture" (February 1944) with two other firms, E. S. McKittrick Co., Inc. and the Morrison-Knudsen Co., Inc., to carry out a contract that has since been expanded until the total amount involved exceeds $30,000,000. When a new phase of the work started in a previously undeveloped part of the area a separate major contract was awarded to the firm of J. E. Haddock, Ltd.

Architect and engineer services on the first temporary facilities were supplied by J. T. Stafford, consulting engineer. When the larger scale of operatinos was undertaken this A&E work was handled by a "joint venture," combining Mr. Stafford's firm with those of J. H. Davies, consulting engineer, and H. L. Gogerty, architect. After completion of that contract the firm of Holmes & Narver, consulting engineers, made a subsequent A&E contract with the Navy and are now serving in that capacity. A large number of subcontractors work on the project and general supervision of all construction is handled by the organization directed by Capt. L. N. Moeller, CEC, USN, construction officer.

Although the station is essentially property of the Navy's Bureau of Ordnance, the Bureau of Aeronautics is cooperating and construction is under direction of the Bureau of Yards & Docks.

No official forecasts have been made, but in years to come the station may far exceed its present scope which may well be only the beginnings of a great postwar research and development project.—*N.A.B.*

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## A. A. S. H. O. cancels 1945 annual meeting

In recognition of the shortage of railroad passenger service because of increasing military needs, the American Association of State Highway Officials has cancelled its 1945 annual meeting, which is normally held in November. The action was taken by the executive committee of the association.

## Chicago gets priorities for private housing

Priorities will be made available for the construction of 3,100 privately financed family dwelling units in Chicago, acording to a recent announcement by William K. Divers, regional representative of the National Housing Administration. Under this program 500 units will be built for rent, 300 will be made available for persons building homes for their own occupancy and the balance of 2,300 will be built for sale. Priorities for 1,100 units can be issued during June, 1,000 in July and 1,000 in August. It is estimated that construction will start during the month following issuance of the priorities, he said.

Maximum sales price will be $8,000 per unit and the maximum shelter rental (base rent minus refrigerators, cooking stoves, etc.) will be $65 per month. These ceiling prices represent increases above the former ceilings of $6,000 and $50 respectively, said Mr. Divers, and they are a reflection of recent increases in the maximum allowable size of the units.

In addition to the privately financed housing, funds also have been made available for the construction of 800 publicly financed permanent dwelling units, principally for occupancy by negroes. This housing will be constructed by the Federal Public Housing Authority, with the Chicago Housing Authority acting as agent in construction and management. Occupany will be limited to essential war workers.

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## Gens. Johns and Timothy get new assignments

Brig. Gen. Dwight F. Johns, formerly commandant of the Engineering School, Fort Belvoir, Va., has been made director of military operations, Office of the Chief of Engineers, and Brig. Gen. Patrick H. Timothy, who has been serving as engineer of the 12th Army Group in the European Theater, takes the place vacated by General Johns at Fort Belvoir.

General Johns

General Johns was graduated from West Point in 1916 and was appointed a second lieutenant, Corps of Engineers, and was promoted in due course through various ranks to his present one. He was awarded the Distinguished Service Medal in 1943 for his exceptionally meritorious service in New Guinea.

After commanding the 21st Engineers, Aviation, Langley Field, Va. from September, 1940, to March, 1942, Johns was named Chief of Staff, Headquarters Services of Supply, Southwest Pacific Theater of Operations. He became commandant of the Engineer School in June, 1944.

General Timothy was graduated from West Point in 1918 and later taught mathematics there. He went to the Philippines in 1921 as company commander of the 14th Engineers. In 1937 he was assigned to the Office of the Chief of Engineers, as chief of the Intelligence Section in Washington, D. C. In November, 1940, he reported at Fort Bragg, N. C., where he served as commanding officer of the 15th Engineer Battalion and as division engineer of the 9th Infantry Division. In August, 1941, he was transferred to the War Department General Staff, as chief, geographic section, Plans and Training Branch, G-2, later serving as chief, plans and training, Geographic, Map and Photographic Branch, Military Intelligence Service. In January, 1944, he went overseas for his tour of duty in the European Theater of Operations.

General Timothy

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## Highway development program for Puerto Rico

A highway development program for Puerto Rico that ultimately may call for the expenditure of $190,000,000 when building materials and equipment are available for civilian use, is being given consideration by various interested government agencies.

Of the projected program $37,000,000 is provided for in the Puerto Rican Planning Board's Six-Year Plan. The remainder is expected to come largely from trust funds set up by the treasurer of Puerto Rico, and about $4,000,000 from federal funds.

A large part of the new program is to be devoted to new construction of secondary roads of the farm-to-market variety. The Planning Board's schedules call for the greatest expenditures to be made in urban centers, where construction amounting to $13,000,000 is projected for thoroughfares and by-pass roads.

# ENGINEERING SCHOOL NEWS

Frederick Miller has been appointed director of buildings and grounds of Columbia University, New York City, succeeding Henry Lee Norris, who retired on June 30 after 43 years of service. Mr. Miller has been assistant director since 1930, and acting director for the last year. A native of New York, he was graduated from the Columbia Engineering School in 1913. For four years he was an assistant in the department of civil engineering. During the first World War he served in the Engineering Division of the Sanitary Corps of the U. S. Army with the rank of lieutenant.

Samuel C. Lind, dean of the Institute of Technology at the University of Minnesota, has announced that a new 5-year engineering curriculum incorporating an additional year's work in literature, English composition, social sciences, economic and allied courses, will be added next fall.

"We have found," he said, "that our engineers are constantly assuming public positions where broad knowledge is required, and they find themselves handicapped."

The new curriculum was worked out at conferences between committees of the arts college, headed by Russell M. Cooper, chairman of general studies, and of the institute, headed by Thomas L. Joseph.

The late Charles Waddell, Asheville, N. C., consulting engineer, who died April 25, left his scientific instruments and technical library of 534 volumes, valued at $5,000, to the North Carolina State College School of Engineering.

Clair N. Sawyer, formerly director of Wisconsin Lake Pollution Survey, and more recently special technical investigator for the South Dakota Board of Health, has been appointed associate professor of sanitary chemistry in the department of civil and sanitary engineering at the Massachusetts Institute of Technology, which plans to expand its program in sanitary engineering to meet the postwar demand for sanitary engineers. He will teach sanitary engineering and sanitary chemistry, water analysis, and fundamental research in water, sewage and industrial waste treatment and stream pollution abatement.

Dr. Sawyer studied at the University of Wisconsin, and then was a postgraduate student and earned his master's degree in sanitary chemistry at the University of Colorado. While doing graduate work at the University of Wisconsin for his doctor of philosophy degree, Dr. Sawyer was a research assistant in the department of sanitary engineering and then became a post-doctorate fellow in that department. He has been active in research work on activated sludge oxidations, including the technique of biochemical oxygen demand tests. His present work in South Dakota has to do with a complex technical problem in the operation of an activated sludge sewage treatment plant at Sioux Falls, which also receives strong industrial wastes from a large packing house.

President John A. Ross, Jr., of Clarkson College of Technology, Potsdam, N. Y., has announced a gift of $150,000 from Mr. and Mrs. Bertrand H. Snell for the purchase of the Potsdam Teachers College grounds to be added to the Clarkson campus. Mr. Snell, former minority leader of the House of Representatives, is president of the Clarkson trustees. New York State is to build a new teachers' college in Potsdam.

The Stevens Engineering Camp at Johnsonburg, N. J., which has been closed since 1942, will reopen on July 9 for six weeks of intensive instruction of college students in civil engineering, and also for a two-week session for boys of high school age, it has been announced by Dr. Harvey N. Davis, president of Stevens Institute of Technology.

William B. Kouwenhoven, head of the School of Engineering, Johns Hopkins University, and S. S. Steinberg, dean of the College of Engineering of the University of Maryland, report they will open their fall semesters with greatly depleted classes because of the drafting of eligible students. Dean Kouwenhoven said: "I know it's not an easy problem under a democratic draft system, but something has to be done. The government is selling the country short by not planning for its technological postwar needs. Even if the war ended before the fall, full classes of engineers would not be turned out until 1949 or 1950.

"Selective service should work out a fair scheme which would make it possible for qualified young men to be trained for these important jobs."

Dean Steinberg, supporting Dr. Kouwenhoven's statements, said, "Engineers are needed not only to win the war, but to win the peace. We did not have a sufficient supply of engineers for peacetime demands and we are not now turning out enough to replace men who die, or pass out of the profession, and to handle the great flood of reconstruction and reconversion jobs after the war."

Ten graduate fellowships in traffic engineering are announced by the Bureau of Highway Traffic of Yale University. They amount to $1,400 each and provide for a full academic year of graduate study beginning Oct. 1.

The regular course of graduate training in traffic engineering is being resumed at Yale this fall for the first time since Pearl Harbor. T. M. Matson, Director of the Yale Bureau of Highway Traffic, in announcing the fellowships, said that, "The resumption of graduate training in traffic engineering is especially timely in view of the acute street and highway transportation problems which now exist and which will grow worse as travel restrictions are lifted. Matters of traffic operations are being given increased attention by state and municipal officials in the planning of roadway facilities for the postwar period."

Enrollment will be limited to 35 students meeting the graduate training requirements of the bureau. "In addition to recipients of fellowships, the course is open to returning veterans under the provision of the G.I. Bill of Rights," said Mr. Matson. "It is also expected that there will be students from city engineering and state highway departments who will enroll either on their own, or with some financial support made possible through special assignment by their employers."

The ten fellowships have been made possible through a grant from the Automotive Safety Foundation.

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## Prize competition

The American Congress on Surveying and Mapping is sponsoring a prize competition for the best article on "The Use of Plane Coordinates in Property Surveys". There will be an award of $35 for the winning article.

Articles must not exceed 2,000 words. Illustrations which can be reproduced clearly on a page 4½ by 6½ inches will be accepted in lieu of 500 words. The contest is open to anyone who has practiced land surveying except officers of the congress. Closing date of the contest is Sept. 1, 1945.

Communications should be addressed to the executive secretary of the American Congress on Surveying and Mapping, P. O. Box 470, Benjamin Franklin Station, Washington 4, D. C.

# A.S.T.M. enlarges work and machinery for postwar standardization work

***Annual meeting learns of basic changes in society organization and new activities in consumer goods field***

Two significant accomplishments, in addition to the usual specification activities, were recorded at the one-day business meeting of the American Society for Testing Materials held in New York City, June 27, in lieu of the usual five-day annual convention. These were the society's enlargement of its scope to cover standardization in the field of ultimate consumer goods and the approval by the membership of a plan for extensive changes in the administrative and staff organization of the society. Announcement was also made of plans to purchase a permanent headquarters for the society in Philadelphia at a cost of $125,000, of which $77,500 has already been raised.

J. R. Townsend, materials engineer, Bell Telephone Laboratories, Inc., was elected president to succeed P. H. Bates of the Bureau of Standards, while T. H. Boyd, head of the Fuel Department, Research Laboratories Division, General Motors Corp., was elected to the post of vice president.

Guest speaker at the annual dinner was Rear Admiral Lewis B. Combs, Assistant Chief, Bureau of Yards and Docks, U. S. Navy, who told of the remarkable accomplishments of the Navy Civil Engineer Corps and its Seabees during the war. Admiral Combs also showed, for the first time, movies of the Navy's floating drydocks, including the large capital ship, advanced base sectional dock, news of which has just been released.

In his presidential address at the dinner, Mr. Bates stressed the importance of the new ultimate consumer standards work, urged the development of a common technical language so that those in different fields can understand one another better, and in general, urged the society to confine its sins to those of commission rather than of omission.

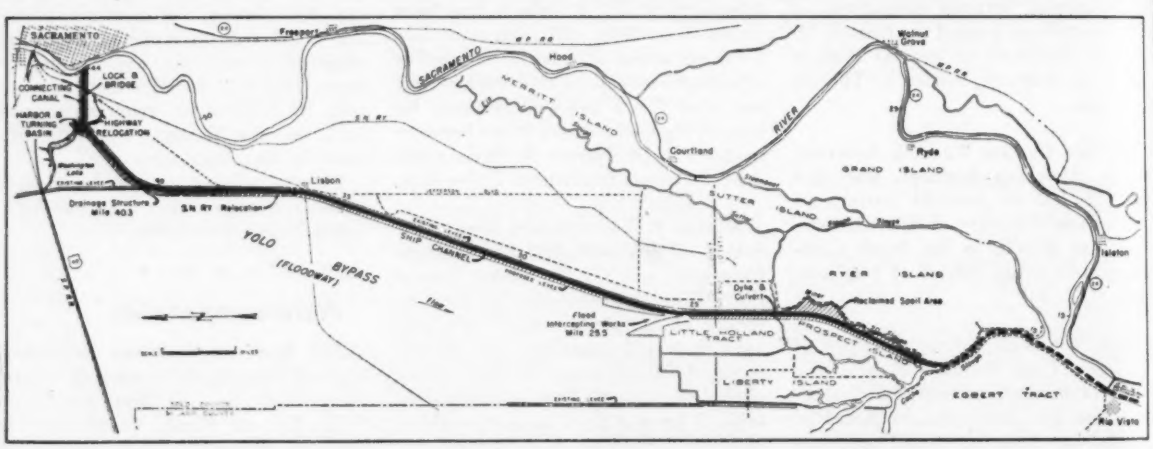
In his report for the executive committee, Secretary-Treasurer C. L. Warwick described the plans for the enlargement of the governing body of the society and the change in its name from "executive committee" to "board of directors." In place of a 10-member executive committee, it is proposed to substitute 15 regional directors serving for terms of three years, scheduled so that the term of office of five directors expires each year.

Appointed by the board of directors from its membership, an executive committee, consisting at most of six members, will act when the board is not in session. Under the new set-up the title of "secretary-treasurer" will be changed to "executive secretary" and the headquarters staff will be reorganized along lines better suited to the technical and business activities of the society.

### New field of work

In referring to the proposed standard tests and specifications for ultimate consumer goods, Mr. Warwick disclosed that the more important of these now under discussion are textiles, rope, rubber products, paper, plastics, fuels, paints, and various building materials. He also announced that L. L. Wyman, research metallurgist, Research Laboratory, General Electric Co., Schenectady, N. Y., had been appointed chairman of a new administrative committee on simulated service testing.

Despite the shortened annual meeting, progress of the society's standing technical committees was not affected.




## Deep-water channel proposed from San Francisco Bay to Sacramento

*Plans for a deep water channel between Sacramento and the San Francisco Bay area, a project advocated by central California interests for many years, moved a big step toward ultimate realization in mid-June when Col. Lester F. Rhodes, district engineer of the Sacramento District, U. S. Army Engineers, announced that a report recommending construction has been completed.*

*Approved by the Pacific Division office of Engineers in San Francisco, the report proposing the 44-mile channel, which would permit ocean-going vessels to dock at Sacramento, has been forwarded to the Board of Engineers for Rivers and Harbors in Washington, D. C.*

*Beginning near Collinsville at the mouth of the Sacramento River, the channel would follow the courses of the river and Cache Slough to mile point 18 (broken line on map). From there it would be dredged 30 ft. deep (at mean lower low water) and from 200 to 300 ft. wide to Washington Lake in which a harbor and turning basin 1,000 ft. wide and 1,200 ft. long is proposed. A shallow draft or barge canal would connect the harbor with the Sacramento River at Sacramento, a distance of 1½ miles. Because of differential water stages, a navigation lock would be used.*

*Expected by private estimate to cost between $12,000,000 and $16,000,000, the channel could be completed in three years and would require the excavation of about 67,482,000 cu. yd. of material by hydraulic dredging. It would shorten the present water distance between Sacramento and San Francisco Bay by 15 miles.*

Although Committee C-1 on Cement deferred any action on current questions until full discussion could be had. Much study is continuing on air entrainment in cement and in general on additions that will increase durability of concrete.

#### Action on standards

Most of the groups presented preprinted reports at the business meeting, and necessary recommendations involving formal standards were carried through. (Any actions on formal standards must be approved at the annual meeting and subsequently referred to the membership through letter ballot.)

Included in the report of Committee D-1 on Paints, Varnish, Lacquer, and Related Products, was a recommendation for publication as tentative of a new method of evaluating the degree of resistance of traffic paint to abrasion or erosion, or a combination of both, in road service tests. The method is based on comparison with photographic standards representing four degrees of resistance.

Committee D-7 on Wood presented a report summarizing methods of determining moisture content of wood, including the use of various types of moisture meters that have been developed during the last several years. Tentative methods of determining the moisture content of timber are being developed. The committee also recommended revision in the tentative method of testing veneer, plywood, and other wood and wood-base materials and approved several new test procedures that supplement the present methods.

Revision of Tentative Methods of Physical Testing of Quicklime and Hydrated Lime (C110-38T) was recommended by Committee C-7 on Lime to include changes in the method for determination of consistency and the addition of new tests for popping and pitting and for water retention of hydrated limes.

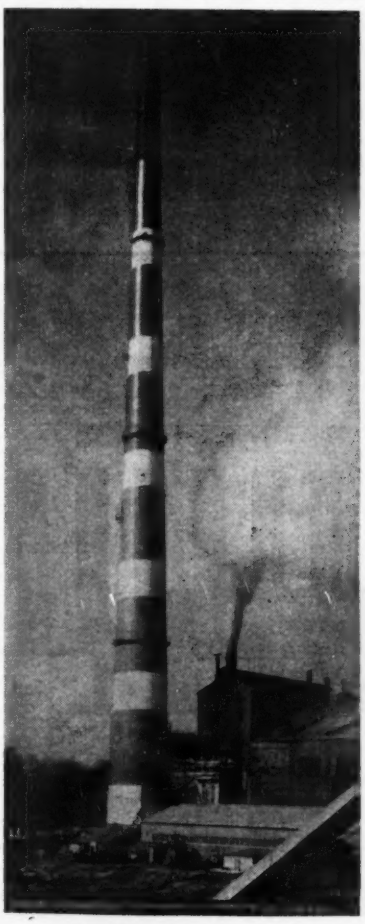
#### Welding electrodes

A joint committee of the American Welding Society and the American Society for Testing Materials on filler metal reported the recent approval by Committee E-10 on Standards of an extensive revision of Tentative Specifications for Iron and Steel Arc-Welding Electrodes (A233-45T), including in the report information concerning A.W.S.=A.S.T.M. classification of iron and steel arc-welding electrodes.

Lack of time prevented the reading of papers at the meeting. However, many of them were preprinted and distributed before the meeting.

One of these, by J. B. Kommers, professor of mechanics, University of Wisconsin, Madison, Wis., was the fourth in a series discussing the effect of overstressing in fatigue. Prof. Kommers finds that, in general, when a high overstress has produced a percentage of damage to endurance life, a subsequent low overstress will show a greater percentage of damage. This damage to endurance life may be four times greater at the final stress than at the initial stress.

On the other hand, as reported in the paper, when the low overstress is followed by a higher overstress, the damage to endurance life is less at the final stress than at the initial. When the initial overstress is low and the number of cycles not too large, the effect of the initial overstress is to increase the endurance life of the final stress sometimes by over 100 percent.



### Highest in the East

*Tallest chimney east of the Mississippi River, this impressive stack designed and recently completed by The Rust Engineering Co., Pittsburgh, Pa., towers 500 ft. above the countryside, only 55 ft. shorter than the Washington Monument. The chimney is equipped with a lead-coated lightning protection system, and with Civil Aeronautics Authority day (striped markings) and night warnings for aircraft. It serves a metallurgical plant at a location which cannot be revealed at present.*

#### Uplift on dam

In a paper by Prof. Karl Terzaghi of Harvard University, "Stress Conditions for the Failure of Saturated Concrete and Rock," the conclusion was reached that the common conception that the hydrostatic uplift acts only on ½ or ⅔ of the base of concrete storage dams appears to be erroneous. A test arrangement is given to determine the effect of pore-water pressure on the strength of rock located between a depth of about 100 ft. and 20,000 ft. Within a depth of about 100 ft., the hydrostatic uplift is almost fully active; at a depth of more than 20,000 ft. it may be negligible.

An attempt was made in a paper, "Test Criterion for an Incombustible Material," by N. P. Setchkin and S. H. Ingberg, to clarify the meaning of the term incombustible, which is used in building codes and other regulations and in specifications, often without being defined. Basing their conclusion on British practice they recommended that "a material shall not be considered to be incombustible if at any time during the prescribed test, in which specimens are heated in a furnace at a uniform rate to 1,382 deg. F., the specimen flames or glows brighter than the walls of the heating-tube, and, if glowing at all, the glow does not immediately diminish when the specimen is lowered to the center of the observation chamber" outside the furnace.

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## James Bove convicted of larceny of union funds

James Bove, American Federation of Labor building trades official, on June 27 was found guilty by a county court jury in Westchester County, N. Y., on 74 counts of an indictment charging forgery and larceny of funds of his union.

Bove was charged with the theft of $65,325 from Local 60, International Hodcarriers, Building and Common Laborers Union. The state charged that Bove introduced a system whereby back salaries were paid to a select group of union officials who in turn paid "kick backs" to him.

In April Bove was convicted with Joseph S. Fay, vice president of the International Operating Engineers Union, in the Supreme Court of New York on a charge of extortion of $703,000 from contractors on the New York City Delaware Water Project. (*ENR* April 12, vol. p. 542.) Both are now appealing the conviction.

## Congress provides funds for Interior Department

Last week Congress reached final agreement on the Appropriations Bill (H.R. 3024) providing funds for the Department of Interior for the new fiscal year, which began July 1. The measure, which calls for a total expenditure of $111,690,258, is now awaiting the President's signature.

The House and Senate had disagreed appreciably on the amount of money to be provided the Bureau of Reclamation, the Senate wanting to appropriate more than the House. As finally passed, the bill appropriates $17,275,000 for the bureau's general construction fund. This money is earmarked as follows: $4,500,000, Central Valley; $450,000, San Luis Valley; $3,000,000, Boise-Anderson Ranch; $2,000,000 Tucumcari; $1,000,000, Lugert-Altus Project; $6,000,000, Columbia Basin; and $325,000, Yakima-Roza. Congress also reappropriated $1,500,000 for construction work on the Davis Dam project.

In addition to the general construction fund for the bureau Congress appropriated $9,783,500 to a special account for construction. Of this amount $3,000,000 will be spent for salaries and expenses and $2,250,000 for general investigations. The remainder will be divided among the following projects: $550,000, Gila; $800,000, Colorado-Big Thompson; $450,000, Palisades development in Idaho; $200,000, Hungry Horse Dam; $60,000, Sun River project in Montana; $450,000, Deschutes work in Oregon; $2,000,000, Provo River; and $23,500, Shoshone-Willwood project in Wyoming.

The bill in final form also provides a $3,000,000 advance to the Colorado River Dam fund and $3,200,000 for the Missouri River Basin.

Also made available for the bureau's general account are four appropriations, part of which may be used for construction. These include a sum of $155,800 for construction of transmission facilities at Fort Peck and $112,500 for the Colorado River levee system.

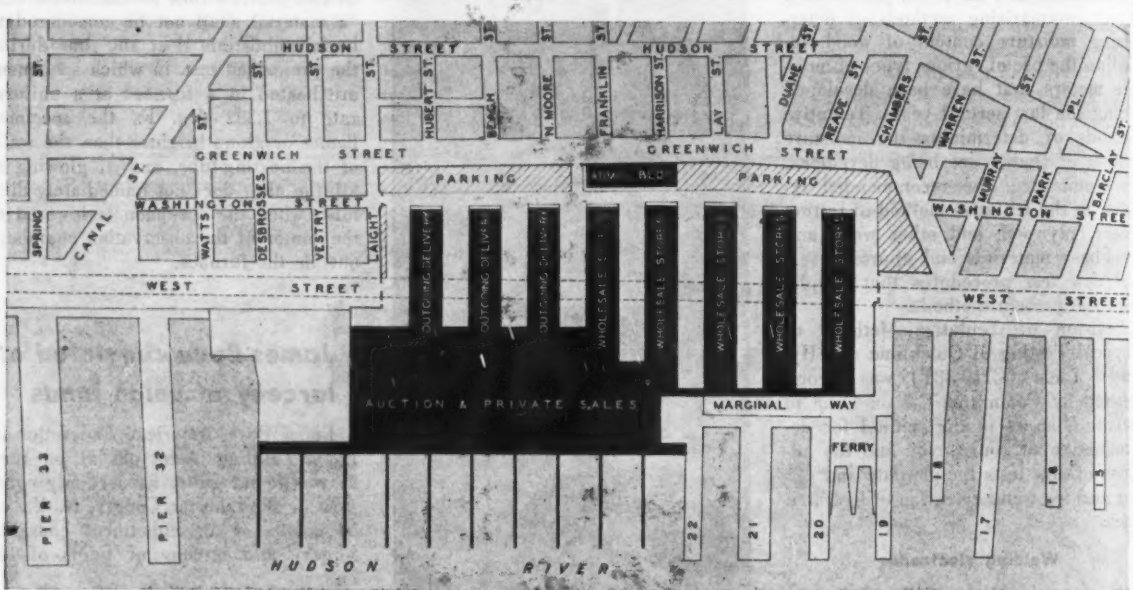
## Montana votes millions for post-war roads

Assurance that Montana will be able to spend $46,000,000 on her highway system after the war is found in the recent voting of a $12,000,000 debenture bond issue at a special state election.

The issue is designed to provide sufficient state funds to meet the $7,966,000 in federal contributions that will be allotted to Montana each year for the first three years after the war on a 57 to 43 percent matching basis.

A condition that bonds made available through the $12,000,000 issue will be sold only when necessary to supplement funds from the five-cent gasoline tax was attached to the issue.

Montana's project plans for the three-year highway development program include expenditures of $23,557,000 on primary road systems, $17,707,000 on secondary roads, $3,104,000 on grade crossings, $1,610,000 for work in cities of over 5,000 population and $132,000 for surveys.




## Produce market planned for New York City to be world's largest

*To occupy 57 acres, including 50.4 acres of the present Washington Market area on the west side of lower Manhattan, a wholesale fruit and vegetable market is planned to be built at an estimated cost of $42,000,000. It will be the largest of its type in the world. Existing buildings will be razed in groups to permit continued marketing during construction.*

*As indicated in the above plan, the market will consist of an auction and private sales platform 1,420 ft. long in an enclosed building over the water, with space provided for 40 carfloats to unload; five 3-story buildings for wholesale stores; three 1-story enclosed platforms for handling outgoing deliveries; an administration building providing facilities for executive offices, restaurant, bank, market service and overnight sleeping quarters for truck drivers; 10 acres of parking space, 5 at street level and 5 on a deck over the delivery platforms; and several 110-ft. wide streets.*

*Surface traffic on West St., the wide waterfront avenue, will be rerouted via Greenwich St., which will be widened to 80 ft. between Canal and Chambers Streets. The elevated highway now on West St. will continue directly through the market, passing over the buildings. Access to the elevated highway will be provided for passenger cars from the upper parking area.*

*The Federal Works Agency has set aside for the project $750,000 of its funds labeled for postwar planning, pending approval of the plan by the City Planning Commission and the Board of Estimate.*

*Preliminary studies and the proposed plan were made by Madigan-Hyland, consulting engineers, New York, under the supervision of the New York City Department of Public Works, Irving V. A. Huie, commissioner.*

# MEN AND JOBS

Placed on inactive service from the Navy, **Horace C. Crandall** has opened an office as a consulting engineer at 475 Fifth Ave., New York City. Prior to entering the service he was president of the Crandall Engineering Co. of Boston. He has participated in the design and construction of nearly all types of heavy and waterfront structures, including shipyard facilities, drydocks, bridges, foundations, underwater pipelines and harbor works in many American and foreign ports. In the Civil Engineer Corps of the Navy for the last four years he supervised the design and construction of several large naval installations. As executive officer of a Naval Construction Regiment, he received a Navy citation for his work in supervising more than 7,000 Seabees in the construction of advanced Pacific bases.

**Les Brett,** civil engineer, Auburn, Wash., has formed the Northwest Surveying and Mapping Co. in that city, with **Harold C. Lake** of Seattle as an associate. Both formerly were with the U. S. Army Engineers on Alaskan work.

**Donald Jerman,** resident engineer at the Newton reclamation project near Logan, Utah, has been named construction engineer for the Palisades project near Idaho Falls, Idaho.

**Walker Paul** has been appointed assistant to the chief engineer of the Southern Pacific Co. at San Francisco. Mr. Paul joined the company in 1922 as draftsman and assistant land appraiser. He was advanced to executive assistant in 1941. His experience in civil engineering in California, Idaho and Utah dates back to 1912.

**C. T. Judah,** of McCook, Neb., has been promoted to planning engineer with the Bureau of Reclamation at Lincoln, Neb. **Paul Harley,** of Denver, Colo., has been appointed to a similar position at Grand Island, Neb.

**B. H. Platt,** superintendent of building and grounds at Iowa State College, Ames, Ia., has been named business manager of the institution, which has a $16 million plant. Following his graduation from Iowa State, Mr. Platt was with a firm of consulting engineers in Chicago. He was city engineer of Wilmette, Ill., for three years and city manager for two years before returning to work at the college.

**J. Lloyd Barron,** the director of the Division of Sanitation of the Nassau County, N. Y., Department of Health since 1938, has resigned to become sanitary engineer of the National Biscuit Co., New York. His new work includes sanitary supervision of milling and manufacturing plants of the company throughout the United States.

**Obert Peterson,** county surveyor of Choteau County, Mont. for the last 24 years, has resigned to look after private business interests.

**James H. McCarthy** is the new Camden County, N. J., director of roads, bridges and engineering.

**D. A. Richards,** Youngstown, has been hired as Struthers, Ohio, city engineer. He is a graduate of Ohio Northern University.

**Frank A. Daum** and **Wade Stever** have been appointed assistant engineers for Defiance County, Ohio, by **Earl C. Reeb,** new county engineer.

**Grover C. Clements,** director of the Franklin County, Ohio planning commission, has been appointed county sanitary engineer without pay. He will carry on those duties along with those of the planning commission.

**Robert Gill** has been named assistant division engineer in Division 6 of the Ohio State Department of Highways, with headquarters in Delaware, Ohio.

**C. J. Chaffins,** Spokane, Wash., is acting Spokane County engineer to succeed the late James Mutch. He has been with the Washington Department of Highways as maintenance engineer for the last 12 years, at Vancouver, Wenatchee and Spokane.

**Lt. Col. Howard H. Sturdy,** formerly engineer for Dravo Corp., Pittsburgh, Pa., entered the Army in June, 1942, as first lieutenant. He served in Amphibious Command until transferred to the regular army. Recently he was awarded the Bronze Star Medal by Maj. Gen. Innis P. Swift for "meritorious achievement at Hollandia, Dutch New Guinea, and in connection with military operations against the enemy at San Fabian, Luzon, Philippine Islands."

**George J. Rohan,** superintendent of the Waco, Tex., city waterworks since 1932, has resigned to become president of the Rohan Co., distributing construction and engineering products. **Hubert Davis,** an engineer in the water department for 15 years, is acting superintendent until the Waco Water Board chooses a permanent successor.

**Lt. Col. Chester L. Wright,** former city engineer of Miami, Fla., has been awarded the Bronze Star. As base engineer of a forward Army service supply base in the Pacific he was responsible for installations of roads, docks, depot facilities, water and other utilities under difficult conditions.

**Edmund A. Pratt** has joined the staff of the American Standards Association to direct its Inter-American Department set up to implement a program of Inter-American cooperation in standardization. It has succeeded in establishing close collaboration with the national standardizing bodies of Brazil, Mexico, Argentina and Uruguay, and with technical groups in other countries. Mr. Pratt is a civil engineer of broad experience in Europe, Asia and Africa, and the Western Hemisphere.

**Maj. M. A. Elson,** of Toronto, Ont., has been decorated for outstanding services as an engineer with the Canadian Army overseas. Major Elson is a graduate in engineering of the University of Toronto and has been with the Royal Canadian Engineers for the last five years, having been associated with the tunnel work at Gibraltar.

**George M. Green, Jr.,** utilities officer with the post engineer's office at Camp Butner, N. C., has been promoted to captain from first lieutenant. A civil engineer, Captain Green, prior to reporting for active duty with the Army in April, 1942, was associated with the U. S. Waterways Hydraulic Experiment Station at Vicksburg, Miss., under the U. S. Army Engineers, rivers and harbors section.

**Carl E. Vogelgesang** has been appointed chief engineer of the Indiana State Highway Commission, succeeding Ray Bower, resigned. Other new appointees include **Charles T. Miser** as superintendent of maintenance and **J. T. Hallett,** formerly city traffic engineer of Indianapolis, as engineer of road design.

## Dry dock moved on beam

(*Continued from page 6*)

hours were required to bring the drydock from beam ends back to within 6 deg. of normal position.

Gantry cranes that normally operate on top of the wingwalls were removed for the passage but all other equipment, including large diesel engines that supply power for the pumps and operation of the dock, were shored and left in position.

Credit for the unusual achievement is shared by officers of the Bureau of Yards and Docks; Frederic R. Harris, Inc., designers of the dock, who made the plans for the work; Pacific Bridge Co., who acted as consultants on the marine work and welding; and a detachment of Seabees, experienced with the pontoon gear, who did all of the work in the field.

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## Thompson takes over presidency of A.W.W.A.

Leonard N. Thompson, general superintendent and engineer of the St. Paul, Minn., Water Department was inducted as president of the American Water Works Association on June 29 in New York City. Wendell R. LaDue, chief engineer and superintendent of the Akron, Ohio, Bureau of Water and Sewerage, also assumed office as vice president.

The ceremony, over which presided Sam Newkirk, Jr., the retiring president, took place at a luncheon attended by 21 members of the association who were present for an executive meeting. The meeting and luncheon were held in lieu of the usual three-day convention sponsored annually by the A.W.W.A.

The luncheon also provided an opportunity to present certificates of honorary membership to Willard T. Chevalier, vice president of the McGraw-Hill Publishing Co., and to George Booth, chief engineer of the National Board of Fire Underwriters, both of New York City. A third honorary membership was conferred last spring on Prof. Robert W. Angus, University of Toronto, Toronto, Ont.

### Postwar planning advancing

In a report of the association's committee on water and sewage works development, Abel Wolman, chairman, stated that: "Planning of new and improvement of old water and sewage systems in the United States is proceeding at more than three times the normal rate for such services."

Mr. Wolman went on to say that the incentive reduction of federal income tax through allowance to industry to charge to operating expense the cost of plans for industrial waste treatment merits consideration by the tax authorities.

"Many industries," he said, "that are now polluting the streams would be encouraged to develop their plans now for waste treatment to be built as soon as the war is over, if the cost of making these plans was accepted as permissible operating expense by the income tax authorities."

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## Cleveland approves 6-yr. program of work

A capital improvement plan calling for the expenditure of $67 million during the six-year period of 1946-51 was approved on June 22 by the Cleveland Planning Commission.

Distributed over many public needs, the recommended $67 million will permit only a fair start on most of the major projects, states the commission. An analysis of the financing of the work reveals that only about $35 million appears to be obtainable without tapping such sources as utility bond issues (for some projects heretofore tax-supported), state and federal grants-in-aid, an increase in sewage service charges, special tax levies and general obligation bonds.

## Central Valley staff to be decentralized

To provide closer contact between Central Valley water and power users and the Bureau of Reclamation as intensive work is resumed to complete authorized portions of the California project, Charles E. Carey, director of the Bureau's Region II at Sacramento has announced reorganization of field staff operations.

Richard L. Bloke, who has spent three years with the Foreign Economics Administration in Central and South America, heads the field staff and will administer operations in the Central Valley Project and the completed Orland and Klamath projects.

Paul S. Jones is chief of the operation and maintenance division, David S. Stoner heads the project development division and Martin H. Blote is in charge of the watermaster division, all in Sacramento.

### Four new superintendents

New field office superintendents are: Allan E. Morrison, Delta area at Sacramento; Howard A. Stoddard, Fresno area at Modesto; Paul T. Ragle, Kaweah—Tule area at Visalia; Harry S. Riddell, Kern area at Bakersfield. A field office superintendent will be assigned for the Sacramento Valley area at Colusa.

# JOBS OF THE WEEK

***RAILROAD, Mexico.***

Kansas City, Mexicon and Orient Railroad, Paulino Fontes, general manager, Mexico City, will construct a railroad through the states of Chihuahua and Sonora by its own forces. The estimated cost is $14,000,000.

***APARTMENTS, Washington, D. C.***

DuPont Park Apartments, Philadelphia, Pa., awarded a contract for the construction of Du Pont Park Apartments to Standard Construction Co., Washington, D. C., at an estimated cost of $1,750,000. Harvey W. Warwick and Ernest D. Stevens, Washington, D. C., are the architects.

***RESIDENCES, Oreland, Pa.***

Conrad Gettler, Glenside, Pa., will construct by separate contracts 230 residences to cost about $1,800,000. G. Harold Murphy, Philadelphia, Pa., is the architect.

***HOSPITAL, Reno, Nev.***

Veterans Administration, Washington, D. C., has received the lowest bid for the construction of Main Building 1, roads, walks and paving at Veterans Hospital from Robert E. McKee, Glendale, Calif. at $1,353,000.

***RESIDENCES, Redwood City, Calif.***

Conway & Culligan, San Francisco, Calif., will construct by their own forces 250 residences and a community business center to cost about $2,000,000.

***RUNWAY, Fort Worth, Tex.***

U. S. Engineers, Denison, awarded a contract for 7,200 ft. heavy duty reinforced concrete runway, at Forth Worth Army Airfield to Texas Bitulithic Co., Dallas, at $1,935,000.

**Note—Additional bidding and contract news on many projects large and small, including the above items, appear in the Construction News section beginning on page 16.**

## OBITUARY

**William Wright Kirby,** 39, Marion Junction, Ala., assistant engineer, Alabama State Highway Department, died June 22.

**Joseph S. Hamilton,** 75, Wilmington, Del., president of the construction firm bearing his name, died June 25. He had been connected with the building industry for 56 years. In association with the late Mayor Frank C. Sparks, he constructed some of the largest commercial and financial buildings in the city.

**Samuel K. Annand,** 59, civil engineer, died June 21 in Santa Cruz, Calif. A native of Canada, Mr. Annand first went to Santa Cruz about 35 years ago and was one of the engineers to plan the laying out of the old Ocean Shore Railroad.

**Joseph Kerber,** 49, vice president and chief engineer of the Hi-Way Service Corp., and a director of the Drott Tractor Co., Milwaukee, Wis., died June 21.

**Percy L. Wilcox,** 54, Dartmouth, N. S., for the past 25 years on the civil engineering staff of the Nova Scotia department of highways and public works, died June 15.

**Horace H. Burrell,** 72, a leading builder of Philadelphia, Pa., for more than 40 years, died June 27. He was the senior partner of Horace H. Burrell and Son, builders of the Bok Singing Tower at Lake Wales, Fla., and the Valley Forge Memorial Chapel at Valley Forge, Pa.

**Fred Roberts,** of St. John, N. B., died June 17. With his two brothers, Walter and Herbert, he was a contracting specialist on wharves and wharf foundations in the maritime provinces of Canada.

**Walter A. Lowrie,** 76, one of the first to specialize in concrete and steel construction in the Philadelphia, Pa., area, died June 24, at Ocean Grove, N. J. Mr. Lowrie was superintendent of construction for many of Philadelphia's best known buildings, including the Philadelphia Museum of Art, most of the Byberry Hospital buildings, and the Pennsylvania Railroad office building at 32nd and Market St. During the last war he superintended construction of buildings at Langley Field, Hampton, Va. Later he also supervised construction of several post office buildings, including that at Harrisburg.

**Francis Trenkamp,** 59, former inspector of bridges and buildings and at one time connected with the sewerage commission of Milwaukee, Wis., died at Okauchee, Wis., June 26.

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## Changes in New York engineering departments

Irving V. A. Huie, commissioner of the New York City Public Works Department, has been appointed by Mayor F. H. LaGuardia to the Board of Water Supply for a life term to fill the vacancy created by the recent retirement of George J. Gillespie, who had been president of the board since 1920. Deputy Public Works Commissioner Edward J. McGrew, Jr., due to be discharged from the Army shortly, will be named to succeed Commissioner Huie.

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## Big Escanaba dock to be wrecked for salvage

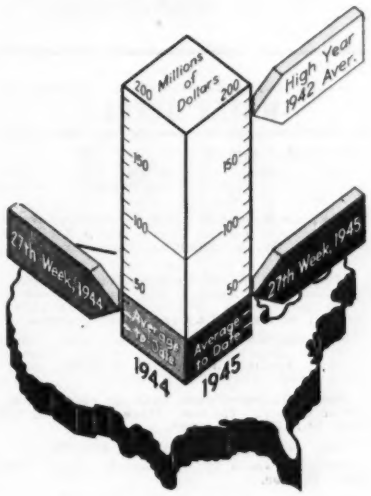
The nearly completed, 75 percent government-owned No. 1 Dock for ore-loading at Escanaba, Mich., understood to have cost around $11,000,000, will be wrecked this summer and the salvaged timber shipped to ordnance plants and other federal projects in need of such material. During the winter of 1943-44, the government-owned No. 3 Dock, completed only to the extent of pile driving, was dismantled, and the 18,000 heavy timber pilings were sawn into lumber for an ordnance project.

The two docks were begun in the fall of 1942 to provide a wartime emergency alternate route for loading iron ore into lake vessels in case the locks at Saulte Ste. Marie, at the gateway to Lake Superior, were disabled by enemy action. The project included improvement of railroads connecting with the various Lake Superior district iron ranges.

C. R. C. Larke, manager of the Minneapolis regional office of the Defense Plant Corp., has announced that the No. 1 Dock—completed except for railroad trackage and loading chutes—has been disposed of to the Central Procuring Agency, Washington, D. C. This agency was organized early in the war to procure lumber and other materials for government construction projects.

Wrecking of the towering harbor structure will be done under supervision of the U. S. Engineers' Milwaukee office. The wrecking contract will be let to a private concern.

## CONSTRUCTION ACTIVITY




As Reported This Week to...
*Engineering News-Record*

### CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

| | Week of July 5 1945 | Cumulative 1945 (27 wk.) | Cumulative 1944 (27 wk.) |
|---|---|---|---|
| Federal | $11,766 | $499,072 | $594,768 |
| State & Municipal | 6,359 | 138,353 | 112,702 |
| Total Public | $18,125 | $637,425 | $707,470 |
| Total Private | 12,695 | 269,550 | 203,282 |
| U. S. Total | $30,820 | $906,975 | $910,752 |

### WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

| Type of Work | Dollar Volume (Thousands) This Week | Cumulative 1945 (27 wk.) | Cumulative 1944 (27 wk.) |
|---|---|---|---|
| Waterworks | $1,426 | $21,223 | $14,115 |
| Sewerage | 337 | 14,960 | 13,843 |
| Bridges | 389 | 13,273 | 6,773 |
| Highways | 5,025 | 99,237 | 102,013 |
| Earthwork, Waterways | 348 | 20,219 | 32,752 |
| Buildings, Public | 3,654 | 309,381 | 337,712 |
| Industrial | 3,057 | 183,808 | 83,604 |
| Commercial | 8,220 | 52,510 | 89,130 |
| Unclassified | 8,364 | 192,364 | 230,810 |

NOTE: Minimum size projects included are: Waterworks and waterway projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

### NEW PRODUCTIVE CAPITAL

| | Cumulative 1945 (27 wk.) | Cumulative 1944 (27 wk.) |
|---|---|---|
| NON-FEDERAL | $310,682 | $201,033 |
| Corporate Securities | 79,670 | 85,345 |
| State and Municipal | 208,412 | 59,558 |
| RFC Loans | 22,600 | 56,130 |
| FEDERAL | $251,010 | $245,266 |
| Total Capital | $561,692 | $446,299 |

### ENR INDEX NUMBERS

| Index Base = 100 | | 1913 | 1926 |
|---|---|---|---|
| Construction Cost | June '45 | 308.99 | 148.53 |
| Building Cost | June '45 | 239.37 | 129.40 |
| Volume | May '45 | 93 | 41 |

# CONSTRUCTION REPORTS

*Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.*

*ELSIE EAVES, Manager* — *SCOTT McLEOD, Statistics* — *J. A. MAHONEY, Reports*

(Daily service also available—Write for details)

## WATER SUPPLY

### PROPOSED WORK

**Calif., Indio**—City, City Hall, imprv. water sys., and purchase existing facilities. $215,000, bonds voted.

**Fla., Jacksonville**—City, expansion water supply, wells, equip., imprv. pump. facilities. $163,400. W. E. Shedden, Engineers Bldg., engr.

**†Fla., Key West**—Federal Works Agency, Candler Bldg., Atlanta, Ga., water reservoir, pipe and diesel driven pump. $140,000. Russell & Axon, Daytona Beach, engrs.

**Tex., Baytown**—Harris County Water Control & Imprvt. Dist. 7, water imprvs. $45,000. Applied to FWA. J. J. Rady, Insurance Bldg., Fort Worth, engr.

**Ont., Elmira**—Town, making plans exten. water supply. $25,000. Gore & Storrie, 118 Bay St., Toronto, engr.

**Ont., King**—City, water sys. $25,000.

**Ont., Lucan**—City, H. Corbett, reeve, WW sys. $25,000.

### BIDS ASKED

*Bids Asked July 15*

**†Tex., Houston**—Federal Works Agency, U. S. Appraisers Stores Bldg., 7300 Wingate St., concrete water reservoir, incl. ladders, inserts, pipe connections, etc., and constructing pump. house, piping, valves, fittings and controls, Tex. 41-709-F. Plans deposit $25.

*Bids Asked July 18*

**Calif., Sharp Park**—North Coast County Water Dist., Fire House, Sharp Park, water transmission sys. and 100,000 gal. redwood stave water tank complete with foundation. Plans deposit $10. E. P. Wilsey, 705 El Camino Real, Hillsborough, engr. CD 2/21—ENR 3/1.

*Bids Asked August 16*

**Va., Roanoke**—City Clerk, City Hall, WW imprvs., Contr. A, filter plant structures; Contr. B, Filter equip.; Contr. C, pump. equip.; Contr. D, slow mix equip.; Contr. E, pipe and fittings; Contr. F, valves; Contr. G, pipeline construction; Contr. H, city farm reservoir. Plans deposit $10 for Contrs. A, E and G and $5 for Contrs. B, C, D, F and H. Alvord, Burdick & Howson, 20 N. Wacker Dr., Chicago 6, Ill., engrs.; adv. ENR 7/5.

*Bids Asked About September 1*

**Fla., Port St. Joe**—City, water treatment plant, Smith & Gillespie, Roberts Bldg., Jacksonville, engrs.

### LOW BIDDERS

**Calif., San Francisco**—Pub. Utilities Comn., City Hall, drilling vertical drains, Sutro Reservoir, Spec. 399, from J. G. Grattan, 730 Laguna Honda Blvd., $21,933. A. A. Eckart, City Hall, ch. engr.

**Calif., San Francisco**—Pub. Utilities Comn., City Hall, June 22, exploratory core drilling, Cherry Valley damsite, Contr. 196, from Mitchell Diamond Drill Co., 779 Bryant St., $17,638. Jas. H. Turner, City Hall, city engr.

**D. C., Wash.**—District Comrs., District Bldg., June 22, water treatment plant, imprv. water supply sys., D. C. Training School, Laurel, Md., from John Tester & Son, 418 Florida Ave. N. E., $19,000.

**Ga., Washington**—City, City Hall, June 19, WW imprvs., from G. E. Moore, Greenwood, S. C., $38,100. CD 6/14.

**Wash., Kelso**—Home Owners' Water Dist., c/o Kelso Floral Co., Pacific Hy. N., June 22, water supply sys. with two 75,000 gal. reservoirs, from E. F. Pugsley, 805 E. Northlake St., Seattle, Zone 5, $36,000. Est. $30,000. CD 6/21—ENR 6/28.

### CONTRACTS AWARDED

**†Calif., Brown Field (br. Otay Mesa)**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N. W., Wash. 25, D. C., replacement deteriorating thin wall pipe in watermains, Auxiliary Air Station, NOY 11858, to E. O. Nay Co., Inc., 186 E. Union St., Pasadena, $62,681.

**Calif., Long Beach**—City, City Hall, 23,500 ft. 30 in. steel watermain exten. Met. Water Dist. lines in Long Beach, Spec. WD-87, to American Pipe & Constr. Co., 4635 Firestone Blvd., South Gate, $289,767. Est.' $300,000. Bids 6/21. CD 6/6—ENR 6/14.

Location of ENR Correspondents

*Symbols and Abbreviations Include:*

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

*Projects—By Size*

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

*Classes of Construction*

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

*Stages Reported*

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

**†N. M., Santa Fe**—U. S. Eng., Albuquerque, addnl. water supply facilities, cold storage reservoir, to H. H. Lewis, 320 N. 3 St., Albuquerque, $24,482. CD 5/29—ENR 6/7.

★ **Pa., Phila.**—City, Dpt. P. Wks., City Hall, Annex, distr. mains, to Kaufman Constr. Co., 1505 Race St., $657,550***watermains, Contr. 235-WWI, to M. & J. B. McHugh, 892 N. Markoe St., $41,718***filter plant alterations, Reservoir Outlet and Oak Lane, to Thomas Earle & Sons, Inc., Real Estate Trust Bldg., $21,680***filter plant alterations and test borings at Torresdale Filtering plant, to Laub Constr. Co., 1518 Walnut St., $32,572. Grand total $753,520. Awarded 6/27. CD 6/5—ENR 6/7.

**R. I. Wakefield**—Wakefield Water Co., 147 Ocean Rd., Narragansett, water sys., 2 brick, concrete pumphouses, to T. I. Ellis, 20 Alfred Stone Rd., Providence. Total est. $15,000. Bids 4/27. CD 4/27—ENR 5/3.

**Tex., Dallas**—City, 32,400 ft. 4- to 12-in. c.i. watermain pipe, to National C. I. Pipe Co., 2009 Main St. $33,258.

**†Tex., Sweetwater**—City, R. C. Hoppe, mgr., City Hall, Contr. 2, water imprvs., Tex. 41-711-N, to Lippert Bros., 2036 N. W. 23 St., Oklahoma City, Okla., $48,752. FWA. Bids 6/23. CD 6/8—ENR 6/14.

**†Wash., Manchester** — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N. W., Wash. 25, D. C., two 80,000 bbl. steel tanks with floating roofs for aviation gasoline storage, N. F. D., Middle and Orchard Point, NOY 12259, to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill.

**Wash., Marietta** — Pub. Water Dist. 1, Bellingham, water sys. imprvs., to C. V. Wilder, 2006 State St., Bellingham, $112,260. CD 6/21—ENR 6/28, under LB.

**Wis., Menasha**—Menasha Utilities Comn., Menasha, P. E. Widsteen, supt., watermain extens., to Gray-Robinson Const. Co., 819 6. 15 St., Manitowoc, $19,649. Bids 6/18.

**N. B., Moncton**—Municipality, City Hall, WW installations, day labor. $15,000 voted. E. B. Martin, City Hall, engr.

**Ont., Belle River**—Village, R. Sauve, clk., filtration plant, to A. Dean Const. Co. Ltd., R. R. 1, Belle River, about $75,000. Bids 5/9. CD 4/10—ENR 4/13.

**Ont., Westboro**—Nepean Township, watermains, etc., to W. H. Kelly, 56 Bridge St., Hull, Que., $30,865.

**Que., St. Jacques des Piles**—City, watermains, etc., to Armand Grenier, 14 Ste. Catherine St., Grand'Mere, $24,600.

**Que., St. Laurent**—City, H. Laponite, clk., watermains, sewers in Church and Beaudet Sts., to Laface Quarry, 130 Blvd., Labelle, L'abord a Plouffe, about $35,000. J. Dussault, Town Hall, engr. CD 4/23—ENR 4/26.

## SEWERS, WASTE DISPOSAL

### PROPOSED WORK

**Pa., Milton**—Boro of Milton, 28 N. Front St., sewage treatment plant. Approx. $50,000. Albright & Friel, 1520 Locust St., Phila., and Christian Siebert, 222 Willow Ave., Camp Hill, engrs.

**Tex., Baytown**—Harris County Water Control & Imprvt. Dist. 7, sanitary sewer collection lines. $60,000. Applied to FWA. J. J. Rady, Insurance Bldg., Fort Worth, engr.

**Tex., Dallas**—City, bids soon storm sewer line, Sunset Heights, Oak Cliff zone. $122,304.

**Tex., Houston**—City, garbage incinerator, $100,000; 2nd garbage incinerator, $150,000.

**Ont., Hamilton**—City, J. F. Berry, clk., 30- to 48-in. and 15- to 18-in. pipe or sewers in 5 streets, Northmanhurst Combined Sewerage Sys. $78,810. W. L. McFaul, c/o owner, engr.

**Ont., Kingston**—City, F. J. Parker, clk., sewers. $28,815.

**Ont., Leamington** — Mersea Twp., R. Imeson, clk., Leamington, drainage. $25,000. C. G. R. Armstrong, Bartlett Bldg., Windsor, engr.

**Ont., Lindsay**—Municipality, sewers. $30,000.

### BIDS ASKED

*Bids Asked July 10*

**Ark., West Memphis**—Bd. Aldermen, City Hall, sewers and pump. stations. $200,000. Plans deposit $25. Marion L. Crist & Assoc., Union Life Bldg., Little Rock, engrs. CD 6/18—ENR 6/21.

*Bids Asked July 11*

**N. Y., St. George**—President Richmond Boro, Boro Hall, sanitary sewer in Woolley Ave. from Victory Blvd. to Gannon Ave.; Clawson St. from Lincoln to Midland Aves.

*Bids Asked July 17*

**Ia., Eldora**—Bd. Supervs., Hardin Co., Eldora, constructing Drainage Dist. 150, involving 23,338 lin.ft. 6- to 30-in. tile, furnish, install 20 lin.ft. 24 in. metal or treat wood pipe, 12 intakes. Over $15,000. R. T. Johnson, Eldora, co. engr.

*Bids Asked About July 23*

**Utah, Roosevelt**—Town, c/o Town Clk., 2.5 mi. sanitary sewer. $30,000. Caldwell & Richards, Templeton Bldg., Salt Lake City engrs.

### LOW BIDDERS

**Calif., Los Angeles**—City, Bd. P. Wks., City Hall, June 20, vitr. clay sanitary sewer in Hatteras St. and Camelia Ave. Sewer Dist., from B. Bosnyak, 3014 Worthen Ave. $42,410. Est. $31,643. CD 6/1—ENR 6/7.